

12. Marinette Marine Corporation

Marinette Marine Corporation (MMC), located in Marinette, WI, on Green Bay, which is part of Lake Michigan, is a privately-owned shipbuilding company that was founded in 1942. Since inception, the yard has built nearly 1,300 vessels, including tugs, ferries, buoy tenders, research vessels, torpedo weapon retrievers, mine counter-measure ships, yard patrol craft and a variety of landing craft.

As of September 30, 1997, MMC was engaged in the construction phases of two contracts with the U.S. Coast Guard. One contract is to design and construct five 69 meter oceangoing buoy tenders and the other to design and construct fourteen 53 meter coastal buoy tenders. During 1997, MMC completed construction and delivery of one oceangoing buoy tender and three coastal buoy tenders.

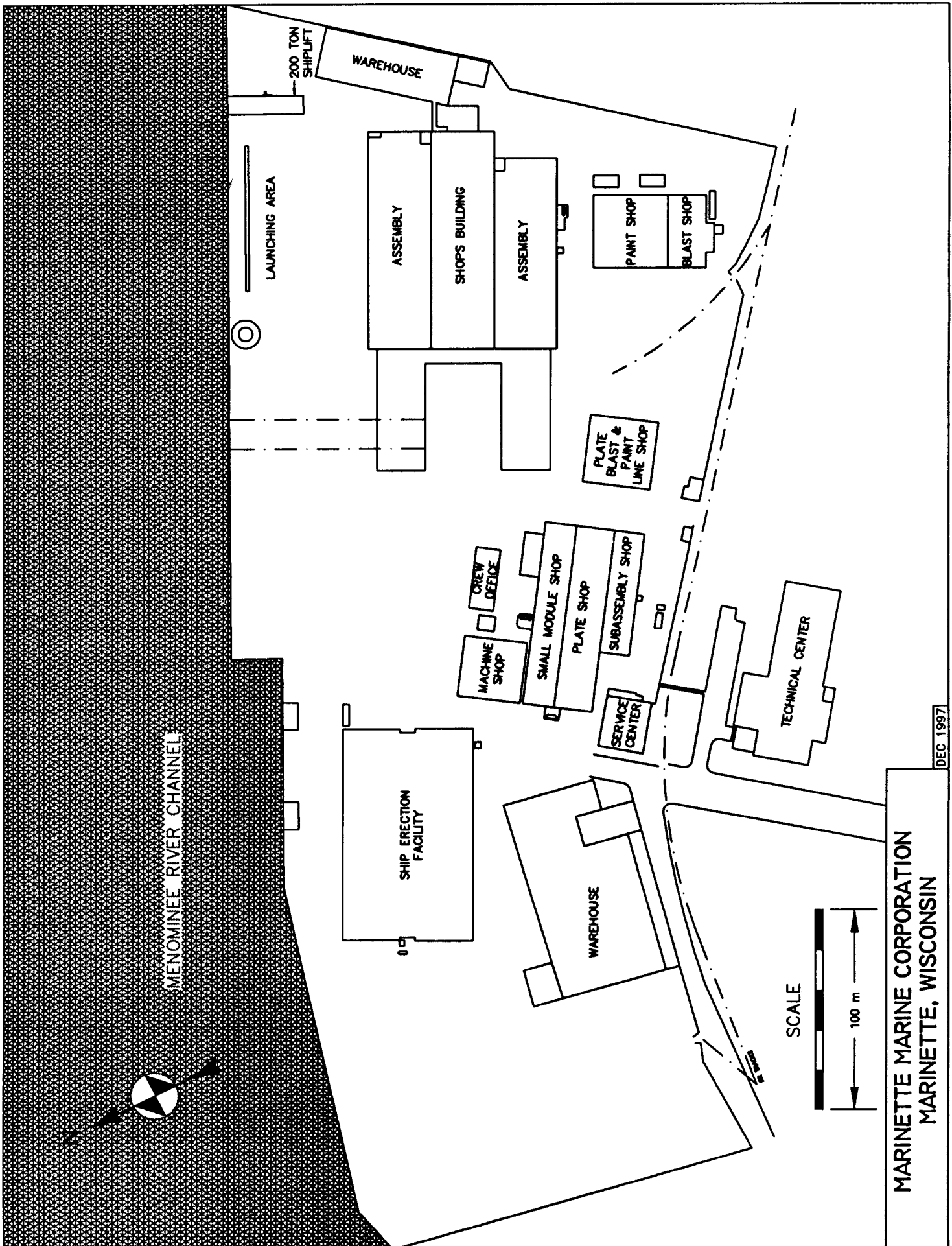
The shipyard covers 23 hectares and has approximately 150,000 square meters of enclosed workspace permitting year-round, uninterrupted construction of vessels. A modern design and administrative building, large fabrication shops and erection areas, a 200 metric ton ship lift, three launchways, and numerous berthing spaces along the 651 meter dockwall provide what is needed to satisfy multiple ship construction projects in assembly line fashion.

Strategically positioned fabricating, assembly and trade shops allow smooth and efficient movement of material, prefabricated components, and small modules through the ship construction process. Most shops are equipped with overhead bridge cranes. Crawler cranes service the outdoor erection areas. Large modules and completed vessels are transferred to erection and launching sites using a dual walking beam ship transfer system that is capable of carrying up to 1,626 metric tons.

Construction of the oceangoing buoy tenders began in late 1993. Construction of the coastal buoy tender commenced in mid-1994.

MMC anticipates an additional eleven seagoing coastal buoy tenders will be contracted for in 1998.

Total employment at the yard in mid-1997 was 546.



MARINETTE MARINE CORPORATION
MARINETTE, WISCONSIN

DEC 1997

13. Metro Machine of Pennsylvania, Inc., Industrial Products Division

Metro Machine of Pennsylvania, Inc. took over the facility formerly operated by Erie Marine Enterprises, Inc. The 18 hectare shipyard was renamed Metro Machine of Pennsylvania, Inc., Industrial Products Division. The shipyard is located on the protected waters of the Presque Isle Bay in Erie, PA. This Great Lakes shipyard has a history of new construction, repair and industrial work. The yard built the first Great Lakes 305 meter self-unloading ore carrier and a second 305 meter self-unloading ore carrier.

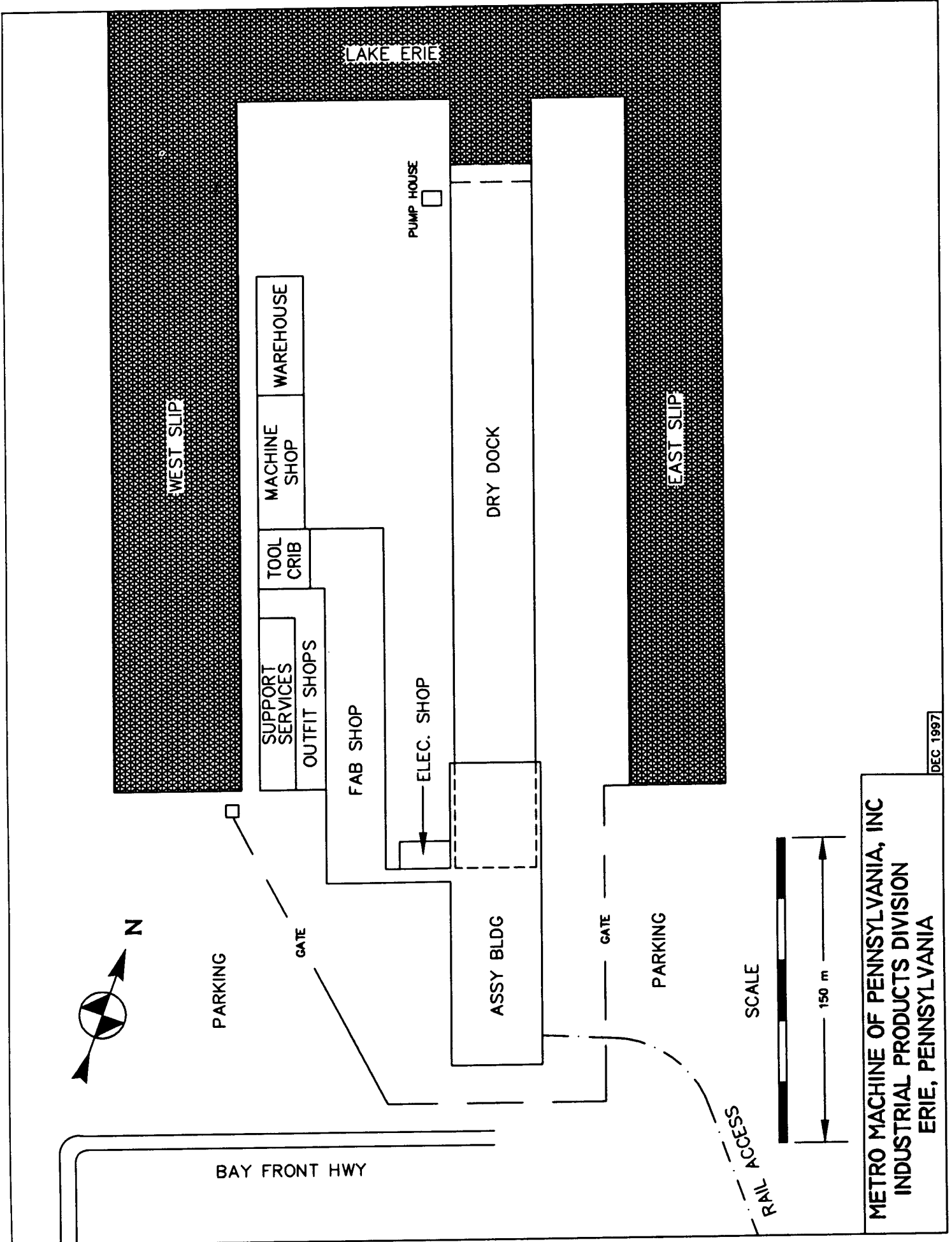
The facility consists of three interconnected buildings containing over 18,581 square meters of production space, enabling raw material coming into the facility to be totally processed in an environmentally controlled production setting. This shipyard has the longest U.S. drydock on the Great Lakes and can accommodate ships up to 375 meters in length with a maximum beam of 35 meters. The drydock extends into a 6,600 square meter assembly building, both of which are served by 91-metric ton and 18-metric ton cranes. The complex contains machine, electrical and outfitting shops with warehouse and office spaces.

Three overhead cranes service the 5,700 square meter fabrication shop. There are 1,129 meters of pier space at the shipyard with full dockside services. Auxiliary pier spaces are available for four additional ships. The shipyard has mobile cranes with capacities up to 113 metric tons. Also, there is a 270-metric ton stationary revolving crane.

In recent years, about \$3.0 million was invested in rehabilitating and upgrading the facility and equipment.

The shipyard has access to and, as needed, uses several industrial companies and subcontractors located in the Erie industrial community.

As of mid-1997, the yard employed a total of 27 people.



DEC 1997

METRO MACHINE OF PENNSYLVANIA, INC
INDUSTRIAL PRODUCTS DIVISION
ERIE, PENNSYLVANIA

14. National Steel and Shipbuilding Company

National Steel and Shipbuilding Co. (NASSCO), the largest shipbuilder on the West Coast, participates in both commercial and U.S. Navy shipbuilding, conversion, and repair markets. In the marine business since 1945, the company now occupies 59 hectares on the harbor in San Diego, CA. In 1989, NASSCO became an employee-owned company.

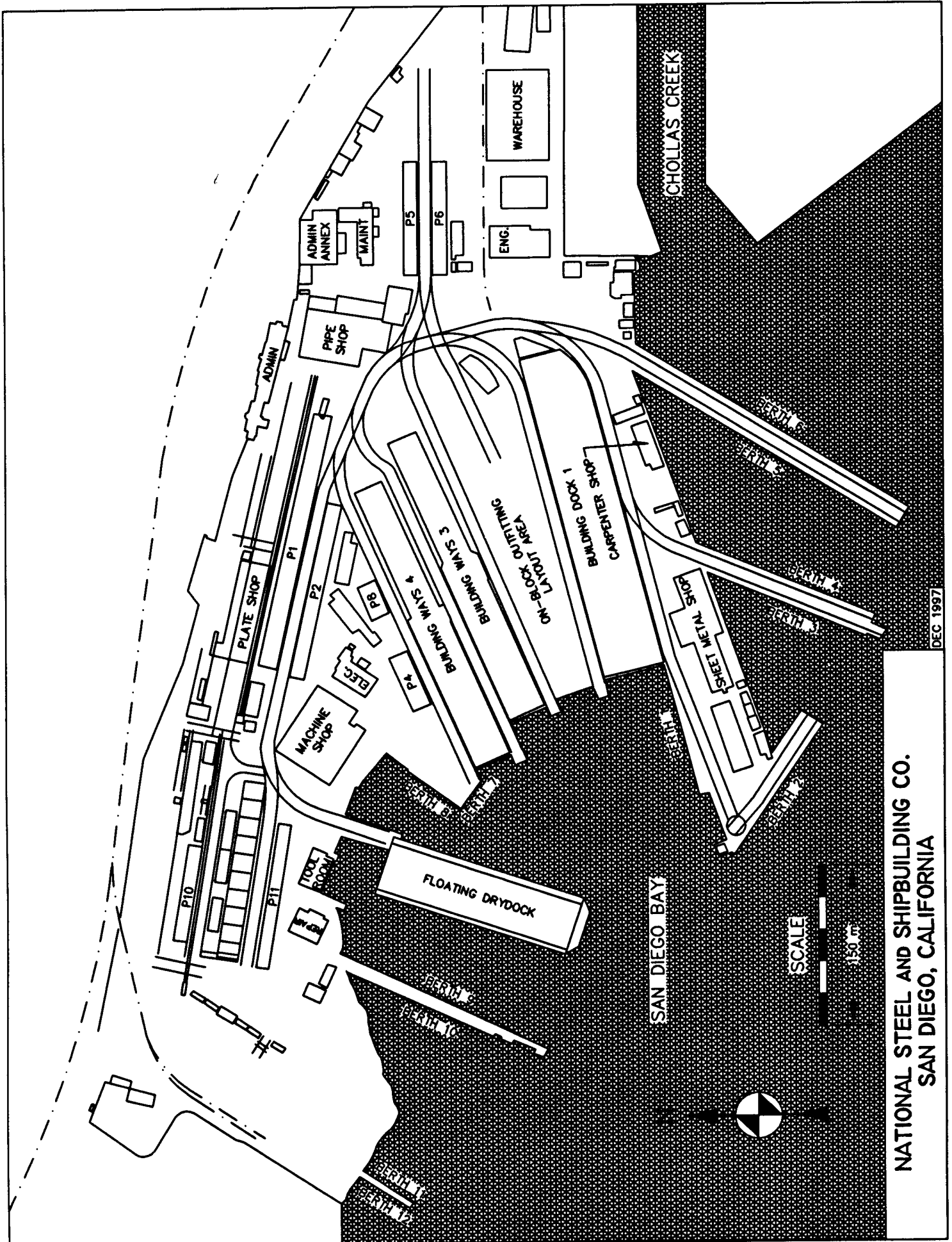
NASSCO has constructed tankers, ore-bulk-oil (OBO) carriers, very large crude carriers (VLCC) up to 209,000 dwt, product carriers, destroyer tenders, a large cable repair ship, a 1,910 TEU containership, special purpose ships and a variety of Navy vessels. NASSCO conversion projects have included the conversion of two 90,000 dwt tankers to 1,000-bed hospital ships (T-AH's), three containerships to Maritime Prepositioning Ships (T-AKX's), and the reconstruction of three former Sea-Land SL-7 containerships to Fast Sealift Ships (T-AKR's) for the Navy. Repair and overhaul work during the past few years consisted principally of Navy contracts.

As of September 30, 1997, NASSCO had contracts to design and construct a series of AOE class Fast Combat Support Ships for the Navy (one is under construction and three have already been delivered). NASSCO also has contracts to convert three containerships to military sealift ships (one is under conversion and two have been delivered) and to design and construct seven new military sealift ships (six under construction and one option) for the Navy.

NASSCO's facilities include a building dock in which ships up to 303 meters by 52 meters can be constructed. In addition, the company operates two inclined building ways. Both can accommodate a maximum size ship of 274 meters by 34 meters. Cranes are available that can provide lifts up to 159 metric tons and multi-lifts up to 236 metric tons. Berthing is available at 8 full-service berths that can accommodate ships with drafts up to 11 meters and lengths up to 305 meters. NASSCO also operates a 25,400-metric ton floating drydock with an inside clear width of 41.5 meters.

NASSCO has a full-service machine shop, carpenter shop, sheet metal shop and pipe shop with an automated pipe silo. The company's steel fabrication and assembly capacity is over 1,800 metric tons per week. There is also an automated line for blasting and priming steel plates and shapes. In addition, NASSCO has two electrical shops: one for electrical work and one for intricate electronics work. NASSCO offers full-service marine engineering and naval architecture, utilizing the latest technology, such as Computervision, Dimension III, Microstation and TRIGON.

As of mid-1997, the total labor force was about 4,293.



NATIONAL STEEL AND SHIPBUILDING CO.
SAN DIEGO, CALIFORNIA

15. **Newport News Shipbuilding**

Newport News Shipbuilding, located at the Port of Hampton Roads in Newport News, VA, is the largest shipbuilding complex in the nation. The company, founded in 1886, has recently returned to being a publicly owned corporation. Newport News has delivered 26 aircraft carriers, 53 nuclear-powered submarines, and over 120 other surface ships for the U.S. Navy. Commercial vessels delivered by the yard include 71 cargo ships, 86 tankers, 61 passenger ships, (most notably the famed superliner UNITED STATES), and more than 50 other self-propelled vessels. Newport News was a pioneer in the field of jumboizing ships, and since 1957, has completed 34 such operations.

Newport News is the nation's foremost shipbuilder. As of September 30, 1997, the yard was at work on two Nimitz class aircraft carriers and eight 46,000 dwt product tankers. Newport News and Electric Boat have teamed to design and build the next class of nuclear submarines. Newport News is also involved in the overhaul and repair of nuclear-powered submarines and surface ships for the Navy as well as commercial repair work.

Included in Newport News' major facilities are:

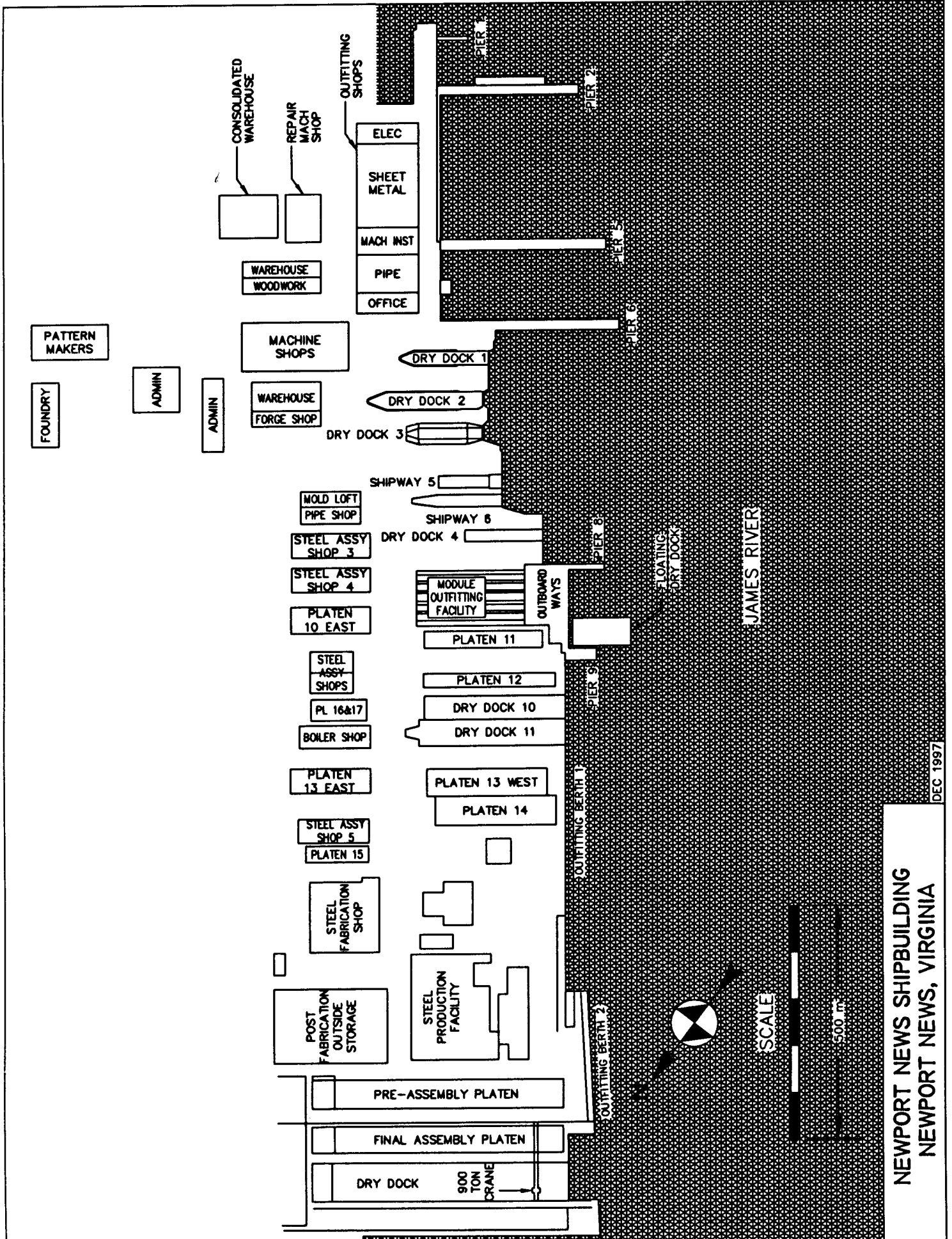
Docks - There are eight docking facilities. Drydock 12, the largest building basin in the nation, can accommodate vessels up to 661 meters in length by 75 meters beam. An intermediate gate will permit the simultaneous construction of two major ships in the dry dock. A 900-metric ton gantry crane, one of the largest in the western hemisphere, can handle completely outfitted assemblies. Dry Docks 10 and 11, which are serviced by a 315-metric ton gantry crane, can be used for construction work, but are used primarily for ship overhaul, repair and deactivation. Dry Docks 1-4 are used mainly for ship repair and overhaul, and the floating dry dock, which is 195 meters by 41, supports ship construction from the module outfitting facility and repair work.

Vessel Berthing - Newport News has two outfitting berths totaling 799 meters each serviced by 30-metric ton cranes. There are three piers totaling 1,944 meters of berthing space and serviced by cranes with capacities of up to 50 metric tons, plus two small piers at the module outfitting facility.

Manufacturing - A \$68 million "World-Class Shipbuilder Project" is currently underway to add robotics and updated computer systems to Newport News fabrication process.

During the past year, Newport News Shipbuilding has been involved in a number of capital projects including drydock extension, crane overhaul, automated steel factory, consolidated refueling facility and carrier innovation center.

As of mid-1997 the labor force at Newport News was about 18,236.



DEC 1997

NEWPORT NEWS SHIPBUILDING
NEWPORT NEWS, VIRGINIA

16. Portland Ship Yard (Cascade General)

This 57-hectare shipbuilding and ship repair facility is located in Portland, OR, on the Willamette River. The yard was developed from the World War II Swan Island Shipbuilding facilities which delivered 1,076 oceangoing ships. Today's facility includes Dry Dock 4, the largest floating drydock in the Americas.

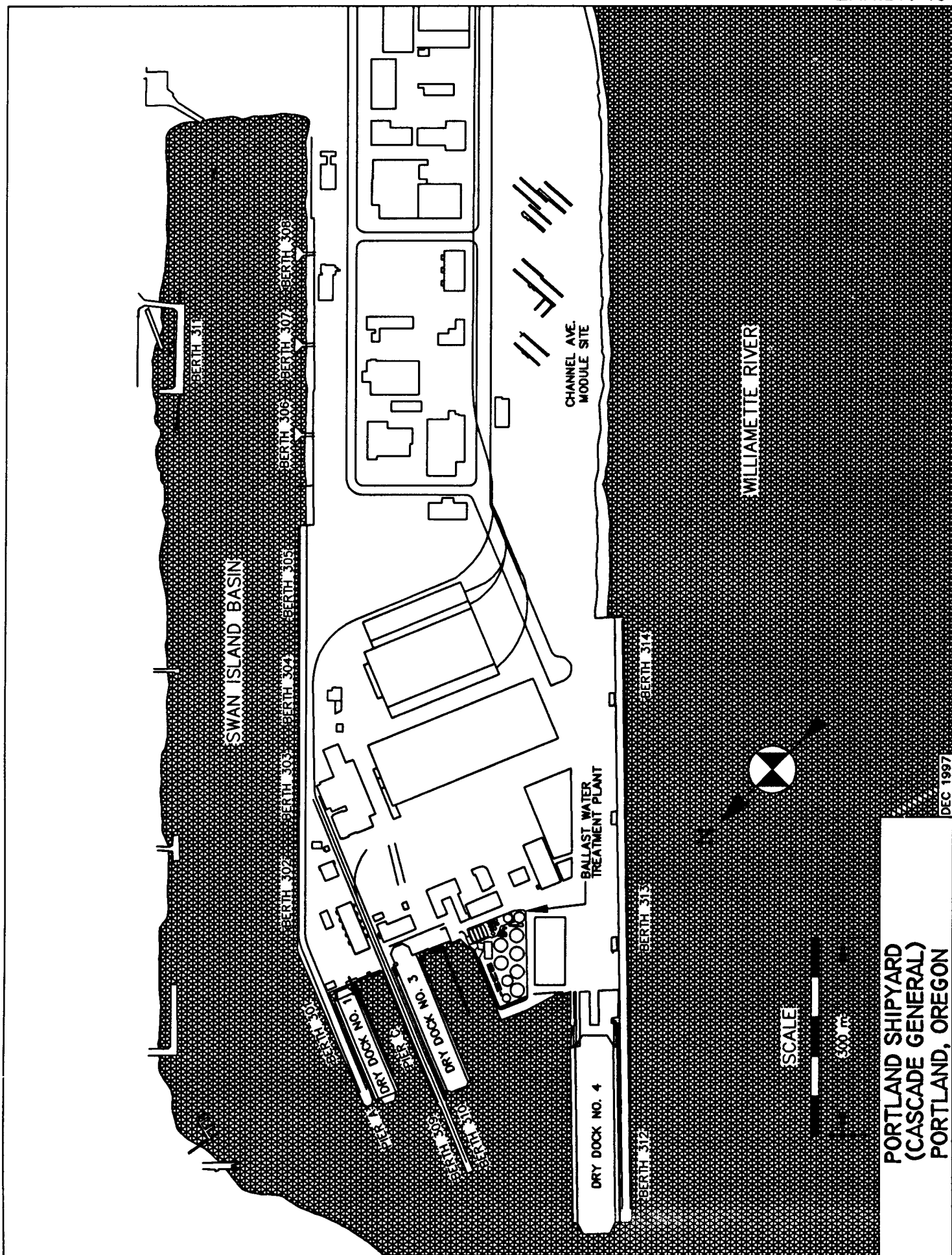
Projects in 1997 included the conversion of the GLOMAL EXPLORER, a 188.7-meter vessel, into a deepwater oil drilling ship. This was one of the most complex projects ever undertaken in the history of the company, involving fabrication of more than 4.5 million pounds of steel and reactivation of virtually every system on the vessel. The conversion, which included a doubling of specified workscope, was completed 15 days ahead of schedule.

The Portland Ship Yard / Cascade General reactivated four vessels as part of the Government's Foreign Military Sales program - USS OUTLETTE (Royal Thai Navy), USS BEAUFORT and the USS BRUNSWICK (Korean Navy) and HMNZS RESOLUTION (New Zealand Navy). Work included drydocking, coating, rebuilding engines and reactivation of systems.

Additional work consisted of extensive repair and overhaul of the USCGC POLAR STAR, CHEVRON LOUISIANA, S/R LONG BEACH, B/T ALASKA, S/R BENICIA, CORNUCOPIA, S/S MARINE CHEMIST, M/V BANEASE, SIERRA MADRE, S/R NORTH SLOPE, S/S DENALI, OVERSEAS CHICAGO, C/S NEXUS, OVERSEAS NEW YORK, TONSINA, CHEVRON MISSISSIPPI, OVERSEAS WASHINGTON, PATHFINDER II, PACPRINCE, RAVEN ARROW and OVERSEAS OHIO. Cruise ship projects included RHAPSODY OF THE SEAS, SKY PRINCESS, SUN PRINCESS, NOORDAM, VIKING SERENADE, S/S INDEPENDENCE, and GREAT RIVERS II.

The Portland Ship Yard / Cascade General operates three drydocks. The largest two (No. 3 and No. 4) can accommodate vessels up to 247 meters by 33 meters, and 351 meters by 55 meters, respectively.

As of mid-1997 the shipyard employed about 986 people.



PORTLAND SHIPYARD
(CASCADE GENERAL)
PORTLAND, OREGON

17. Tampa Bay Shipbuilding & Repair Company

Tampa Bay Shipbuilding & Repair Company (formerly Tampa Shipyards, Inc.) is a full-service new construction, conversion and repair organization located in Tampa, FL. The shipyard is conveniently located in the protected harbors of Tampa Bay directly accessible from the Gulf of Mexico via a 13 meter channel and is the largest, most complete shipyard between Pascagoula, MS and Hampton Roads, VA.

Tampa Bay Shipbuilding & Repair Company fronts on Sparkman Channel, which is 13 meters deep, 152 meters wide with a 213 meter turning basin. Maintenance is performed by the U.S. Army Corps of Engineers. One of the few limitations to ship size is the Skyway Bridge located at the mouth of Tampa Bay. This bridge limits the rise of ships entering Tampa Bay to 55 meters.

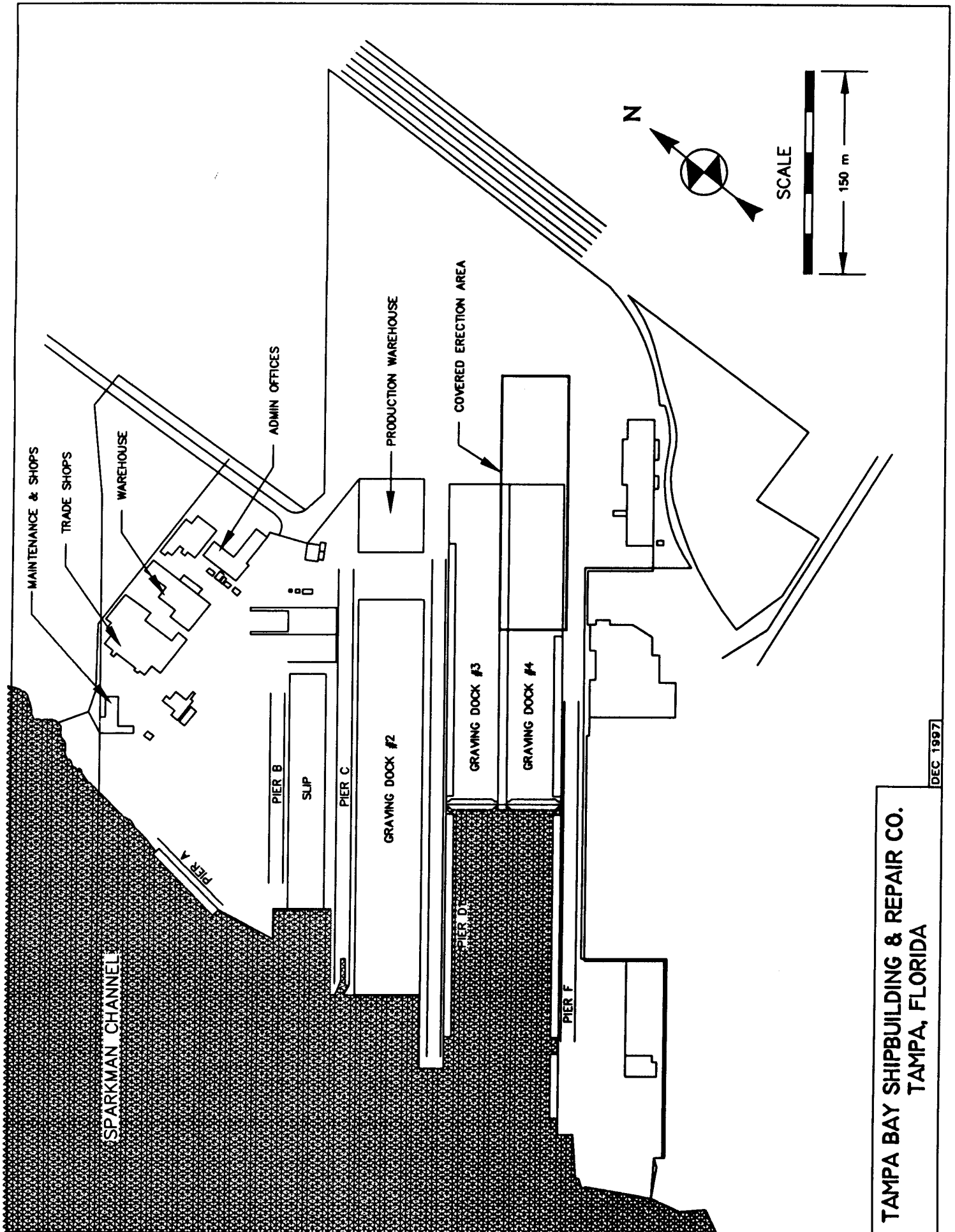
The shipyard covers 25 hectares and features three graving docks with 9 meter draft capabilities for ships up to 227 meters in length and 7 meters draft for ships up to 276 meters in length, and a covered erection building 183 meters by 44 meters by 35 meters high, and is serviced by three overhead bridge cranes. About 107 meters of the erection building straddles one of the graving docks, allowing pre-assembled units weighing in excess of 908 metric tons to be erected in a covered environment. Other major facilities include a concrete pier, two wet berths, a fully equipped warehouse, and machine and fabrication shops.

Tampa Bay Shipbuilding & Repair Company maintains a skilled workforce in all facets of ship repair including design, steel fabrication, pipe fabrication, electrical, piping, machinery, blasting and coating. Its workforce and a network of experienced local subcontractors combine to create the ideal environment for ship repairs, conversion, and new construction projects. A full range of utilities and services necessary for efficient production are provided, including electrical power, compressed air, portable water, fire protection, sanitary sewer, storm drains, steam, oxygen and burning gases, and paved roads.

Tampa Bay Shipbuilding & Repair Company completed nearly 50 repair jobs in 1997. Included in their customer base are Apex Marine's GULF TRADER and GULF BANKER, and Coscol Marine's COASTAL CORPUS CHRISTI and COASTAL NEW YORK. Other jobs include emergency collision repairs to the MARINA, a 244 meter by 42 meter by 19 meter deep vessel. Tampa Bay Shipbuilding & Repair Company was able to drydock the TORM AGNETE, with it's cargo still onboard, and complete repairs in only four days.

The facility is served by the CSX Railway System and is just minutes from Tampa International Airport, Interstate Highways 4, 75, 275 and the Lee Roy Selmon Expressway.

As of mid-1997, Tampa Bay Shipbuilding & Repair Company employed a total of 159 people.



TAMPA BAY SHIPBUILDING & REPAIR CO.
TAMPA, FLORIDA

DEC 1997

18. Todd Pacific Shipyards Corporation

Todd Pacific Shipyards Corporation is located at the Northwest corner of Harbor Island in Elliot Bay, less than 10 minutes from downtown Seattle, WA. The shipyard has been located there since 1916. Todd Pacific has repaired or converted thousands of vessels during this period, while constructing almost 300 new vessels.

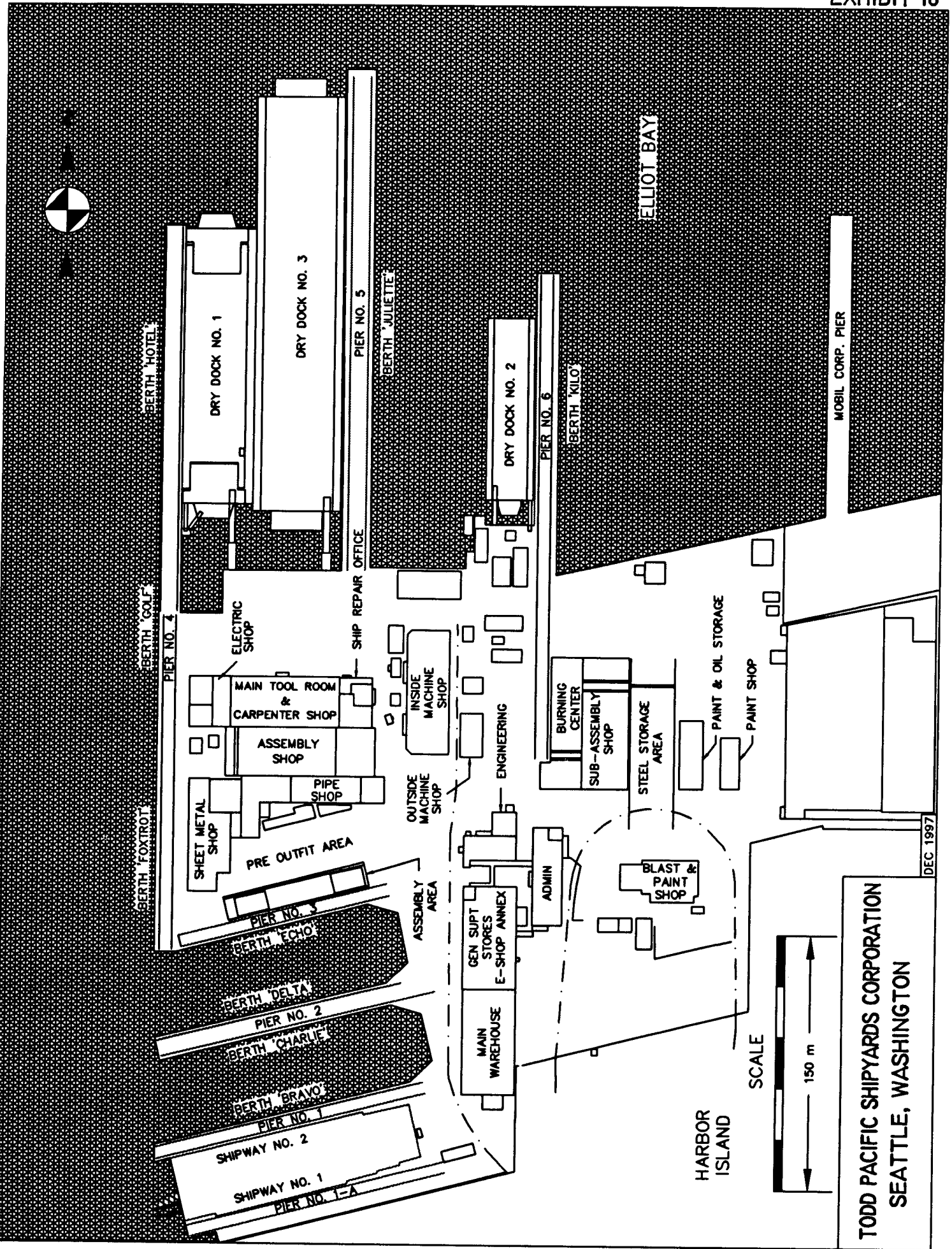
As of September 30, 1997, work in the yard included the construction of the last two ships in a three ship contract, for 150 meter car ferries, for the Washington State Ferry System. This contract was signed in January 1995, with deliveries scheduled between 1997-1999. The first ship was delivered in August 1997. Todd Pacific has used this opportunity to transfer modern shipbuilding methods from Ishikawajima-Harimi Heavy Industries Co., Ltd (IHI) of Japan. In addition, Todd Pacific is currently occupied with the repair and overhaul of numerous factory trawlers, containerships, barges, tugs, and ferries, as well as drydocking at least 100 vessels a year and long-term phased maintenance work on Navy AOE's.

Todd Pacific has a dual shipway for simultaneous construction of two ships with a maximum length of 168 meters by 18 meter beam. Combining the two shipways, a ship up to 168 meters by 29 meters can be built. Todd Pacific operates three floating drydocks, rated at 41,290, 17,780 and 5,791 metric tons respectively. The largest of the drydocks can accommodate ships up to 287 meters by 41 meters. A fourth floating dock rated at 8,500 metric tons was acquired during the summer of 1997, but is not yet operational.

Two wharves and five piers provide a total of 1,834 meters of berthing space for outfitting and repair. The yard is serviced by 15 whirled traveling cranes with lifting capacities ranging from 23 metric tons to 136 metric tons.

During a two-year period starting in August 1993, the company undertook a major site reorganization and extensive capital improvements focused at improving overall efficiency in new construction and repair. The stores/warehouse function was consolidated into a more central location. Additional facility changes have been made to allow Todd Pacific to adopt a Japanese-style group technology construction process. A Company wide LAN computer system has been installed which is inclusive of AutoCad work stations in both design and lofting. All pipe shop activities have been consolidated in a larger space and restructured to accommodate pipe piece family manufacturing and the palletization of finished pipe pieces. The west steel shop has been outfitted with additional cranes and pin jigs and is now a block assembly shop. A new plasma arc burning machine has been installed. The former east steel shop has been reconfigured as a sub assembly shop. A second enclosed paint facility was added, for pre-outfitted blocks and units, without impacting on capacity for ship repair. The former ordnance building has been converted to a module assembly shop for engine room modules. The area containing the former sheet metal loft has been razed, piped for services and black-topped to provide a block outfitting area.

In mid-1997, total employment at Todd Pacific was 1,050.



TODD PACIFIC SHIPYARDS CORPORATION
SEATTLE, WASHINGTON